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Japanese Utility Model Application  
No. Hei 4[1992]-115592

ROBOT ARM

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ROBOT ARM

[roboto ahmu]

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Constitution

A robot arm that comprises an arm 7 that has been formed by the interlocking of multiple blocks 17, 18, 19. The surfaces where blocks 17, 18, 19 are facing blocks that are adjacent to them on one arm are slanted surfaces 21, 22 that are parallel to each other. The adjacent blocks 17, 18, 19 interlock so that they can rotate around the axial line that is perpendicular to the slanted surfaces 21, 22. Each adjacent block is allowed to move around the said axial line because the rotary drive 27 set that is housed in the joint part for the adjacent blocks is controlled by a microcomputer, and, as a result, the direction or shape of the arm is allowed to change.

Claim

A robot arm comprising:  
 an arm (7) that has been formed by the interlocking of multiple blocks (17, 18, 19); and

surfaces of blocks (17, 18, 19) that face blocks to which they are adjacent constitute slanted surfaces (21, 22) that are parallel to each other, and each of the adjacent blocks (17, 18, 19) interlock so that they are able to rotate around the axial line that is parallel to the slanted surfaces (21, 22); wherein a rotary drive set (27) that is housed in the joint part is controlled by a microcomputer that enables each of the adjacent blocks (17, 18, 19) to be driven around the aforesaid axial line, allowing the arm (7) to change direction and shape.

#### Brief explanation of the drawings

Figure 1 is a cross-sectional view that shows the first embodiment of the utility model.

Figure 2 is a cross-sectional view that shows the operation of the first embodiment of the utility model.

Figure 3 is a cross-sectional view that shows the second embodiment of the utility model.

Figure 4 is a cross-sectional view that shows the operation of the second embodiment of the utility model.

Figure 5 is a cross-sectional view that shows the third embodiment of the utility model.

#### Explanation of reference numerals

- 4 Robot arm
- 6 Mounting
- 7 Arm
- 17 Trapezoidal-shaped block
- 18 Isosceles trapezoidal-shaped block
- 19 Parallel rectangular-shaped block
- 21 Slated surface of block 18
- 22 Slanted surface of block 19
- 23 Interlocking joint
- 24 Circular groove
- 25 Projecting piece
- 26 Internal gear
- 27 Enclosed motor
- 28 Pinion
- 29 Rotary drive set

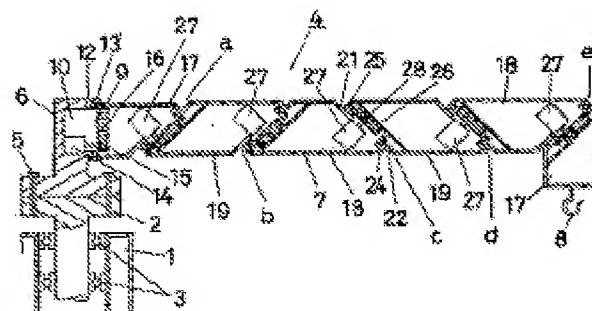


Figure 1

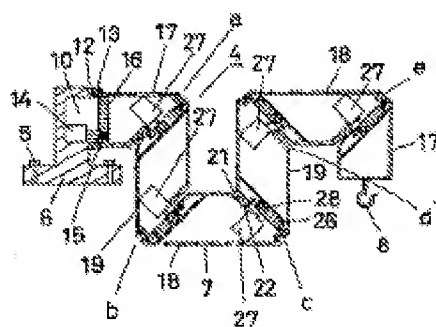


Figure 2

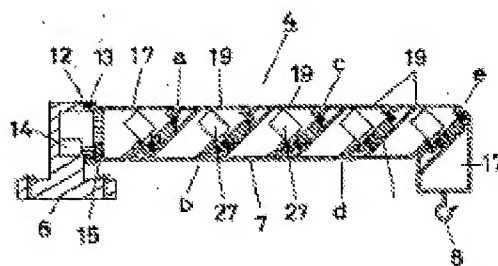


Figure 3

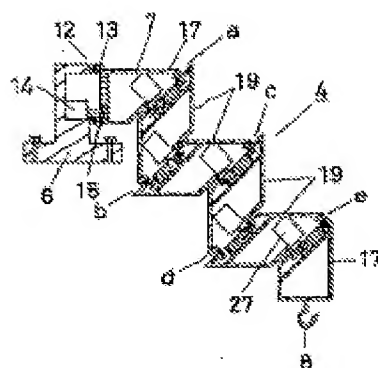


Figure 4

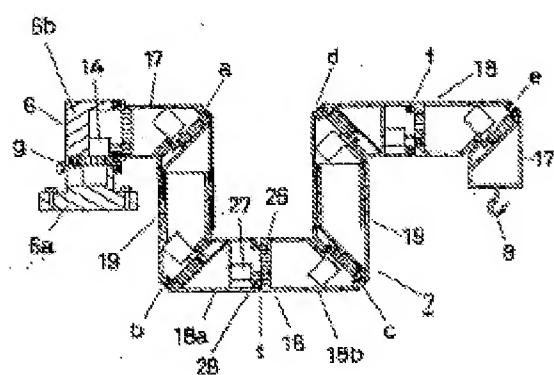


Figure 5